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| 10/509,173 | 10/20/2004 | Bjorn Boschert | 016906-0336 | 5199 |

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| EXAMINER | |
|---|---|
| TAI, XIUYU | |
| ART UNIT | PAPER NUMBER |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/509,173 | BOSCHERT ET AL. | |
| | Examiner | Art Unit | |
| | Xiuyu Tai | 4151 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/24/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

**Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 14 recites the limitation "the blower" in line 4. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

3. Claims 21 and 22 provide for the use of "an electrically functioning oxidation device", but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 21 and 22 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim 23 provides for the use of "at least one ozone generator", but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 23 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

4. Claim 24 provides for the use of "at least one photocatalyzer device", but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 24 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims1- 3, and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagata et al (U.S. 5,968,214).

7. Regarding claim 1, Nagata et al disclose an air cleaning apparatus for vehicle. The apparatus comprises: (1) a ducting system (reference 3 in Figure 11; col. 7, line 57-58) for directing a current of air, which has at least one fresh air inlet opening (reference 103 in Figure1 1; col. 7, line 59) that communicates with the surroundings of the vehicle and/or at least one inlet opening for recirculated air (reference 101 in Figure 11; col. 7,

line 58) that communicates with an interior of the vehicle which is to be air-conditioned, and at least one outlet opening (reference 31 in Figure 1 ; col. 3, line 28-29) that communicates with the vehicle interior. (2) an oxidation device 7 (Figure 1; col. 3, line 34) which functions electrically (col. 3, line 41-48) and breaking down odorous substances and/or pollutants contained in the current of air by oxidation(col. 5, line 20-23),

8. Regarding claim 2, the apparatus of Nagata includes an ozone generator 7 which is an oxidation device, reads on "the oxidation device has at least one ozone generator for generating ozone in the current of air "as claimed.

9. Regarding claim 3, the apparatus of Nagata is fully capable of performing the claimed function since all the structural limitations of the apparatus of Nagata are substantially identical to those of claims 1 and 2. Claim 3 calls for the apparatus "designed" so as to perform specific function.

10. Regarding claims 21-23, the ozone generator 7 is used to generate ozone and to oxidize ammonia for removing bad odor compounds (see Abstract).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 4-14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al (U.S. 5,968,214) in view of Cornwell (U.S. 5,221,520).

15. Regarding claim 4, Nagata fails to teach a catalyzer which breaks down the ozone and is arranged downstream of the ozone generator. However, Cornwell discloses an apparatus for treating indoor air. The apparatus comprises an ozone generator 20 (Figure 1; col. 8, line 1) and a filter 26 containing a catalyst destructive to ozone (Figure 1; col. 9, line 6-7). The filter 26 is disposed downstream of the ozone generator 20. Therefore, it would be obvious for one having ordinary skill in the art to

incorporate the catalyst of Cornwell downstream of the ozone generator into the apparatus of Nagata in order to destroy unreacted ozone before the air stream discharged into the environment.

16. Regarding claim 5, Cornwell indicates that the catalyst in the filter 26 is surface modified hopcalite and zeolite, which take the form of a sorption catalyst (col. 8, line 32-36). Therefore, it would be obvious for one having ordinary skill in the art to utilize the catalyst as taught by Cornwell in order to destroy excessive ozone produced from the system of Nagata before discharge to the environment.

17. Regarding claim 6, with the structural elements in the teaching of Nagata/Cornwell, the apparatus is fully capable of performing the claimed functions.

18. Regarding claim 7, a door 33 (Figure 1; col. 3, line 30) is provided in the apparatus of Nagata, reads on "a first baffle device (26) being provided, which in the sterilization mode directs the current of air so that no ozone-charged air enters the vehicle interior through the minimum of one outlet opening" as claimed.

19. Regarding claim 8, Nagata/Cornwell fails to teach a second ozone generator arranged downstream of the catalyst. However, one having ordinary skill in the art would have found obvious to add a second ozone generator downstream of the catalyst in order to remove contaminants sufficiently, as it was held by the courts that mere duplication of parts has no patentable significance unless a new and unexpected result is produced (see M.P.E.P.2144.04).

20. Regarding claim 9-11, and 14, with a plurality of doors 33 being provided in the system of Nagata/Cornwell, the apparatus is fully capable of performing the claimed function.

21. Regarding claim 12, doors 33 of Nagata are disposed upstream the air outlet 31.

22. Regarding claim 13, Nagata further teaches that doors 33 are for restricting air flow (col. 3, line 30-31), reads on " the first baffle device has a separate switch element for each outlet opening, which in the sterilization mode shuts off the air supply to the respective outlet opening" as claimed.

23. Regarding claim 20, the catalyst containing zeolite coating on the filter 26 (col. 8, line 32-36) is disposed upstream of duct passage 18 (Figure 1; col. 7, line 67-68). Therefore, it would be obvious for one having ordinary skill in the art to arrange the catalyzer upstream of a distribution chamber in Nagata system in order to destroy excessive ozone produced and to discharge safe amount of ozone to the environment.

24. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al (U.S. 5,968,214) in view of Cornwell (U.S. 5,221,520) and in further view of Hoke et al (U.S6,214,303).

25. Regarding claims 17-19, Nagata and Cornwell fail to teach the catalyst is integrated into an existing component and/ or respective component. However, Hoke et al disclose an apparatus to lower the concentration of pollutants in ambient air. Hoke further teaches that the stationary substrate surface, such as heat exchange surfaces, fan blades, and duct surfaces (col. 3, line 40-42) can be modified by coating to contain the pollutant treatment material (col. 3, line 29-31). Hoke also indicates that pollutant

treating compositions include catalyst which can assist in the conversion of the pollutants to harmless compounds (col. 4, linen 65-66). Therefore, it would be obvious for one having ordinary skill in the art to coat the catalyst on the surface of heat exchangers, fan blades, and the interior of Nagata/Cornwell as suggested by Hoke in order to save space in a vehicle and to enhance purification efficiency.

26. Claims 15-16, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al (U.S. 5,968,214) in view of Lee at al (U.S. 2003/0095920).

27. Regarding claim 15 and 24, Nagata et al fail to teach the oxidation device having at least one photocatalyzer device comprising at least one UV-emitter and at least one catalyzer in the form of a photocatalyzer. However, Lee et al disclose a photocatalytic electric fan. The fan comprises an UV lamp 40 that is wrapped with a glass-fiber cloth 45 having a phtocatalytic coating in the form of titanium dioxide (Figure 3; paragraph [0019]). Therefore, it would be obvious for one having ordinary skill in the art to add at least one UV lamp having a photocatalytic coating of TiO2 as taught by Lee into the system of Nagata in order to enhance purification efficiency.

28. Regarding claim 16, the photocatalytic coating is in the form of TiO2, which reads on "the photocatalyzer takes the form of an oxidation catalyzer" as claimed.

29. References marked as 'X" in the international search report are not used as 102 reference due to the lack of structural elements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuyu Tai whose telephone number is 571-270-1855. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mikhail Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Xiuyu Tai

3/24/2008
/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 4151